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COMOR-D-56/71
(CWG-D-11/4)

9 February 1965

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MEMORANDUM FOR: Committee on Overhead Reconnaissance

SUBJECT: Use of Long-Term Evenly Spaced KH-4 Orbits

Attached for discussion at the COMOR meeting on Thursday, 11 February, is a draft reply to the USIB request that COMOR made recommendations as to when "long-term equally spaced orbit missions" should be flown in the future. After comparing the conclusions and recommendations of the attached paper with those originally submitted to the Board in COMOR-D-24/182, it is the opinion of this office that it is preferable to take any time that may be necessary to review all aspects of this paper rather than accelerate it to the Board. It is proposed, therefore, that the action this week be confined to a critical review rather than an attempt to conclude on a paper to USIB.

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Executive Secretary
Committee on Overhead Reconnaissance

Attachment
Subject draft

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4	DIA [redacted]
5, 6, 7, 8	DIA TCO
9	OACSI TCO
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18, 19, 20	(S) NRO TCO

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NRO review(s) completed.

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COMOR-D-56/71
(CWG-D-11/4)
9 February 1965

UNITED STATES INTELLIGENCE BOARD

MEMORANDUM FOR THE UNITED STATES INTELLIGENCE BOARD

SUBJECT: Use of Long Term Evenly Spaced KH-4 Orbits

REFERENCES: a. USIB-D-41.18/4 (COMOR-D-24/182)
b. USIB-D-41.18/7 (COMOR-D-56/69)

1. As directed by the USIB (Ref. b, para. 5b) the COMOR has considered the subject of the long term equally spaced orbit (similar to that flown by Mission 1014) to determine when and under what circumstances orbits of this type could be most usefully flown in the future.

2. In conducting the subject evaluation, COMOR consulted with the (S) NRO and was advised as follows:

a. Currently there are two long term evenly spaced orbits which may be flown -

(1) 70^{o} inclination and 9 day evenly spaced - 10 days synchronous; and,

(2) 75^{o} inclination and 8 days evenly spaced - 9 days synchronous

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b. These orbits provide the potential for photographing all points of the earth's surface lying between tangent points of the orbit. (Thus, the 70° orbit can cover all areas between 70° N. and 70° S. and the 75° orbit, all areas between 75° N. and 75° S.).

c. Either of these orbits provides the potential for photo overlap of areas lying north of 40° N. and south of 40° S. to their respective tangent points (70° and 75°). Areas lying between the equator and 40° N. and 40° S. probably will receive no overlap coverage during a given mission.

d. Overlap that is obtained will be acquired on consecutive days rather than occurring on 2 - 5 day cycles as is the case with "conventional" KH-4 orbits (examples are KH-4 missions excepting 1014).

e. Currently two orbits can be carried from 35 days from launch (R -35) to 19 days from launch (R -19). These can be one conventional and one long term orbit or two conventional.

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f. At R -19 a decision must be made to determine which orbit will be flown. Should it be decided after 19 days from launch (say R -12) to reverse this decision, then the countdown must revert to R -19.

g. Orbits selected at R -35 are the only ones that can be flown within 35 days.

h. It is planned to reduce the R -19 time requirement to R -8 by September 1965 and to R -3 by December 1965.

3. COMOR requirements including the highest priority target list, "holiday" maps, and area priorities for J missions (which include mapping and charting requirements) can be reaffirmed for (S) NRO guidance by R -19.

4. Conclusions:

a. Long term evenly spaced orbits are very useful for acquiring maximum one time coverage (within film limitations) of any entire geographic area (say China, Cuba, Indonesia, Congo, Brazil, or USSR) on one J mission without predictable detrimental effects. With respect to paragraph 2d above, imprecise long range weather forecasts preclude making the judgment at R -19 as to which orbit is more desirable.

b. It is advisable to use the long term evenly spaced orbit as one of the two orbits carried from R -35 to R -19.

c. That on or before R -19 the (S) NRO will know the latest intelligence requirements and then can select the better orbit.

5. Recommendations:

a. That both a long term evenly spaced orbit and a "conventional" type orbit be included for each mission and carried from R -35 to R -19.

b. That at R -19 the (S) NRO on the basis of the most current intelligence requirement select the orbit which best meets the indicated need.

James Q. Reber
Chairman
Committee on Overhead Reconnaissance

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